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Enclosure (6)

DIAQ QUALITY INSPECTION



DEPARTMENT OF THE NAVY
NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION
PATUXENT RIVER, MARYLAND 20670-5304

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From: Team Leader, Technical Publishing Team, Naval Air Warfare Center Aircraft Division,
22541 Millstone Road, Patuxent River, MD 20670-5304

To: Commander, Naval Air Systems Command (AIR 7.5), 1421 Jefferson Davis Highway,
Arlington, VA 22243

Subj: REQUEST FOR RELEASE OF TECHNICAL INFORMATION

Encl: (1) Flight Test Update - F/A-18E/F Super Hornet (Slides) (2 copies)
(2) ~~F-18E1 Arrival at NAWCAD Patuxent River (Video Tape)~~

1. Enclosures (1) and (2) are forwarded for review and approval for public release.
2. Enclosures (1) and (2) will be presented at the Society of Experimental Test Pilots, San Diego, California on 15 March 1996. The authors of enclosure (1) are LCDR T. C. Gurney and Mr. Jim Sandberg. The proposed NAVAIR reviewer is Mr. Willie Smith (PMA265-F1). Request approval by ASAP or no later than 13 March 1996.
3. Please contact Dorothy Reppel at DSN 342-1709 or commercial (301) 342-1709 should you have any questions.

Karen L. Brown
KAREN L. BROWN

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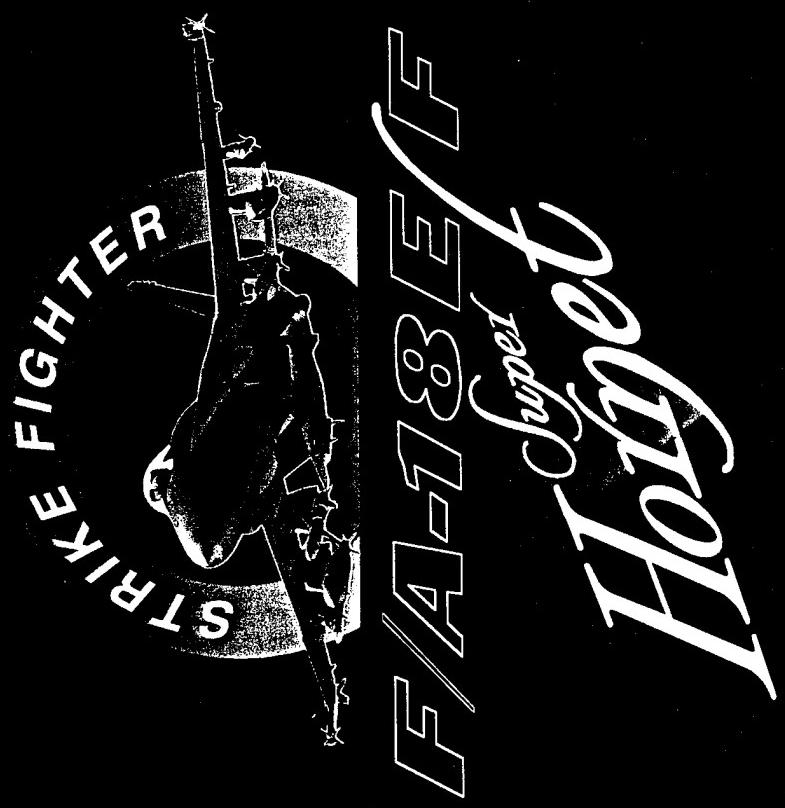
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Flight Test Update

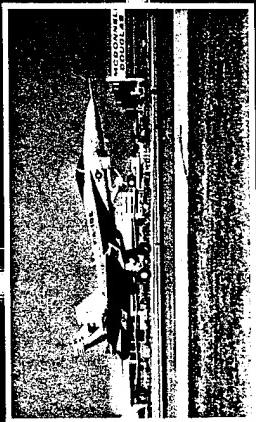
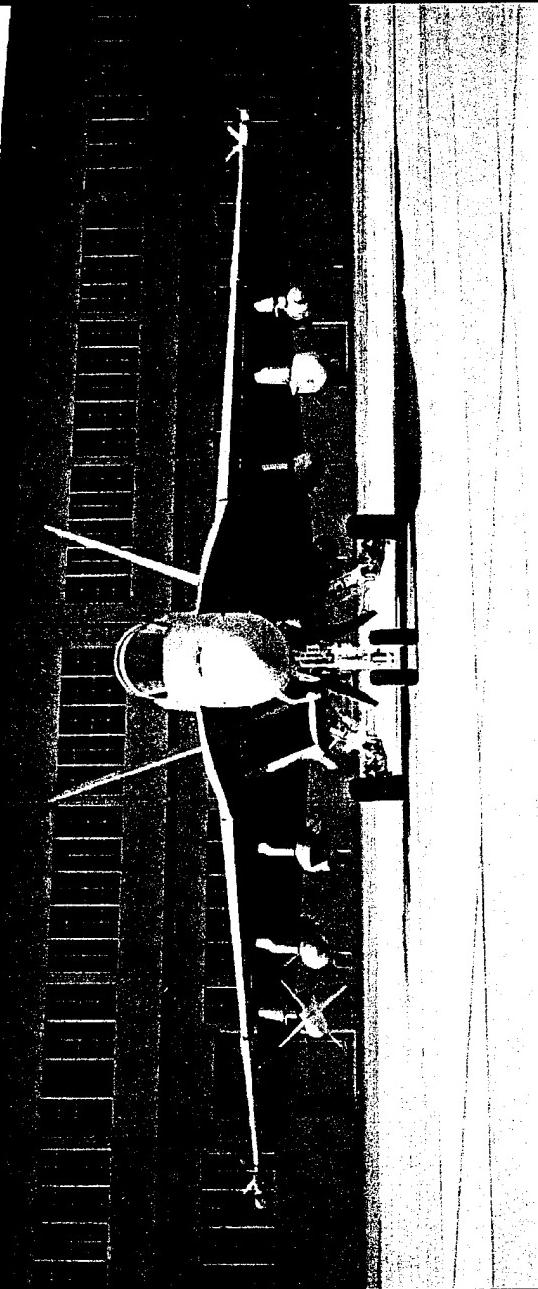


GPI6235K4101 evs



The Society of Experimental Test Pilots

26th San Diego Symposium
March, 1996



Mr. Jim Sandberg, NGC (AF)
LCDR Tom Gurney, USN (M)

GFB2300006.CVS

- Program History
- Aircraft Description
- Flight Test Program
- Lessons Noted



Continues Hornet Evolution

Additional Improvements

- APG-73 Radar Upgrade
- Engine Upgrade
- Reconnaissance

F/A-18C/D Night Strike

- Night/Adverse Weather Capability
- Deliveries Began October 1989

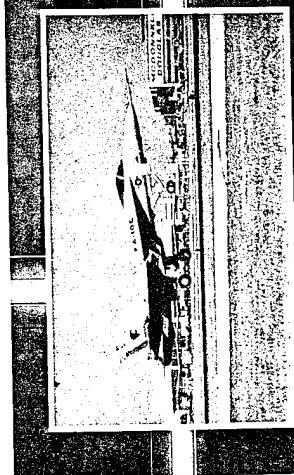
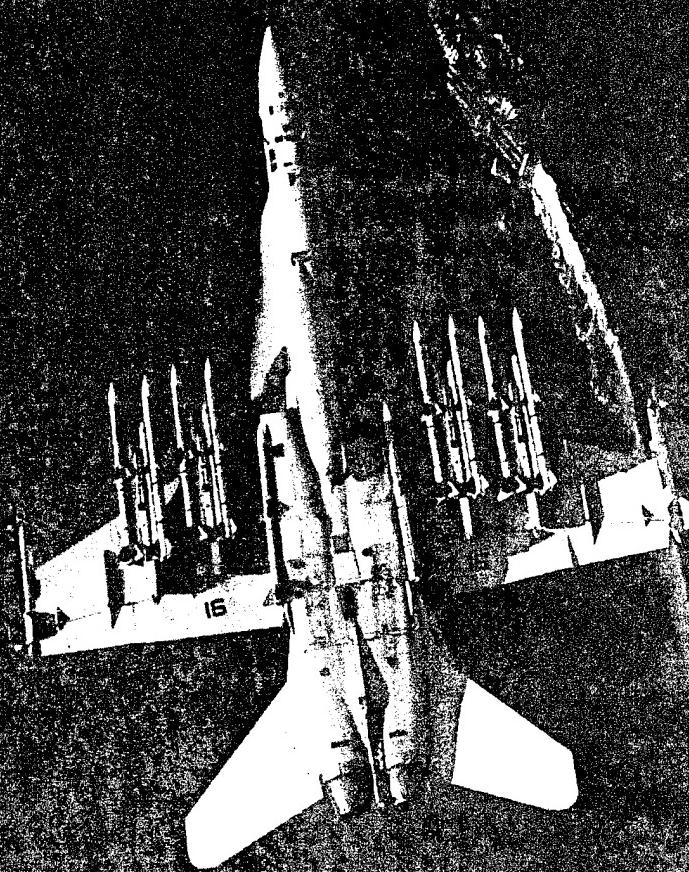
F/A-18C/D

- Advanced Weapons
- Improved Systems
- Fleet Deliveries September 1987

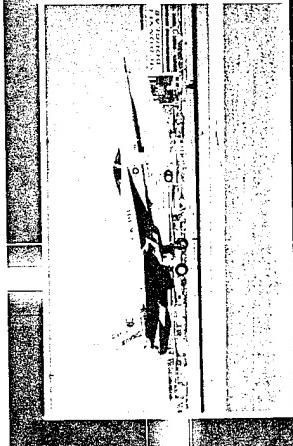
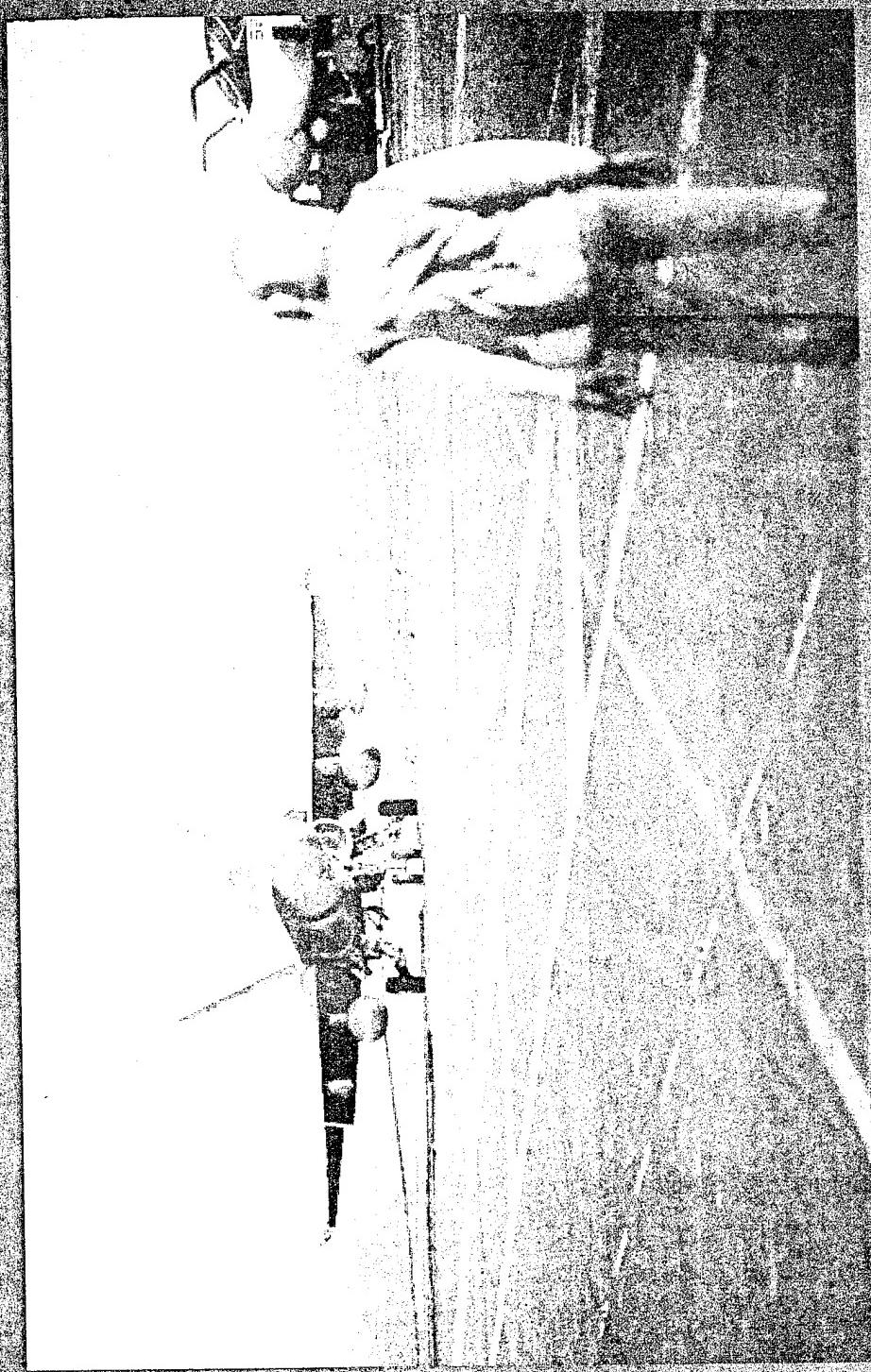
F/A-18A/B

- Replaced A-7 and F-4
- First Flight November 1978

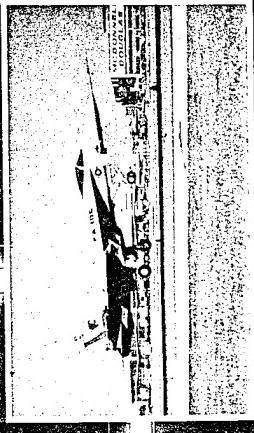
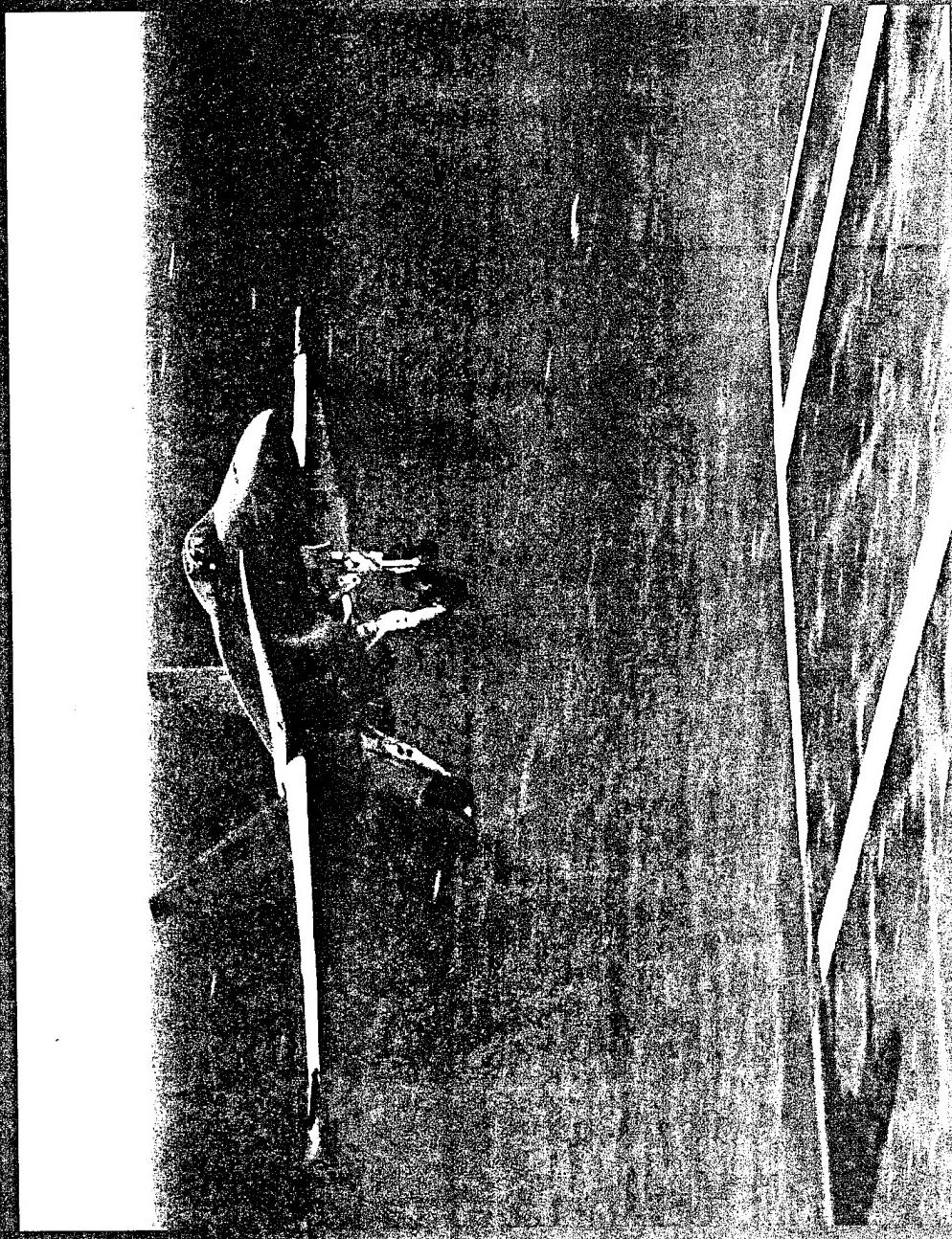
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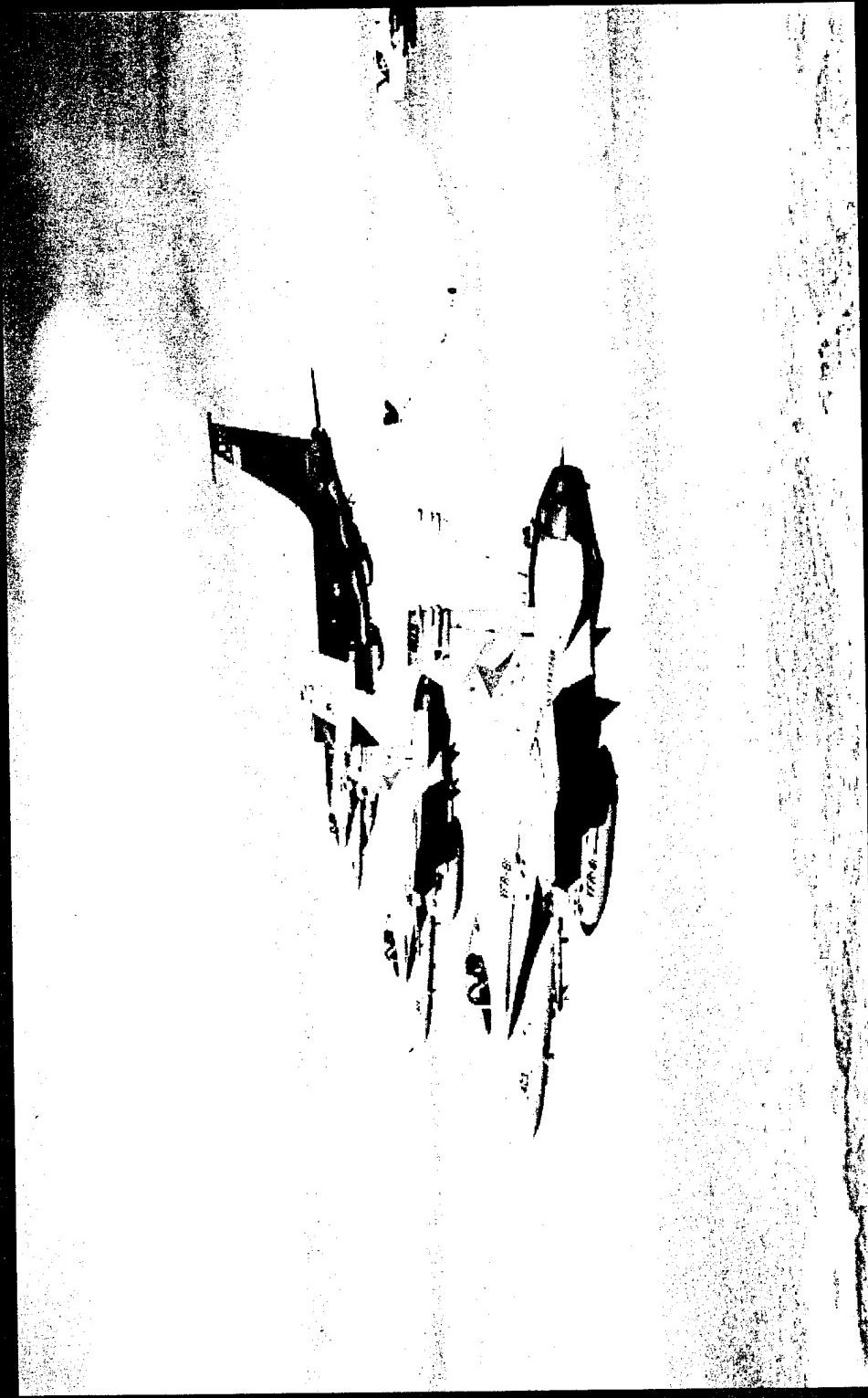
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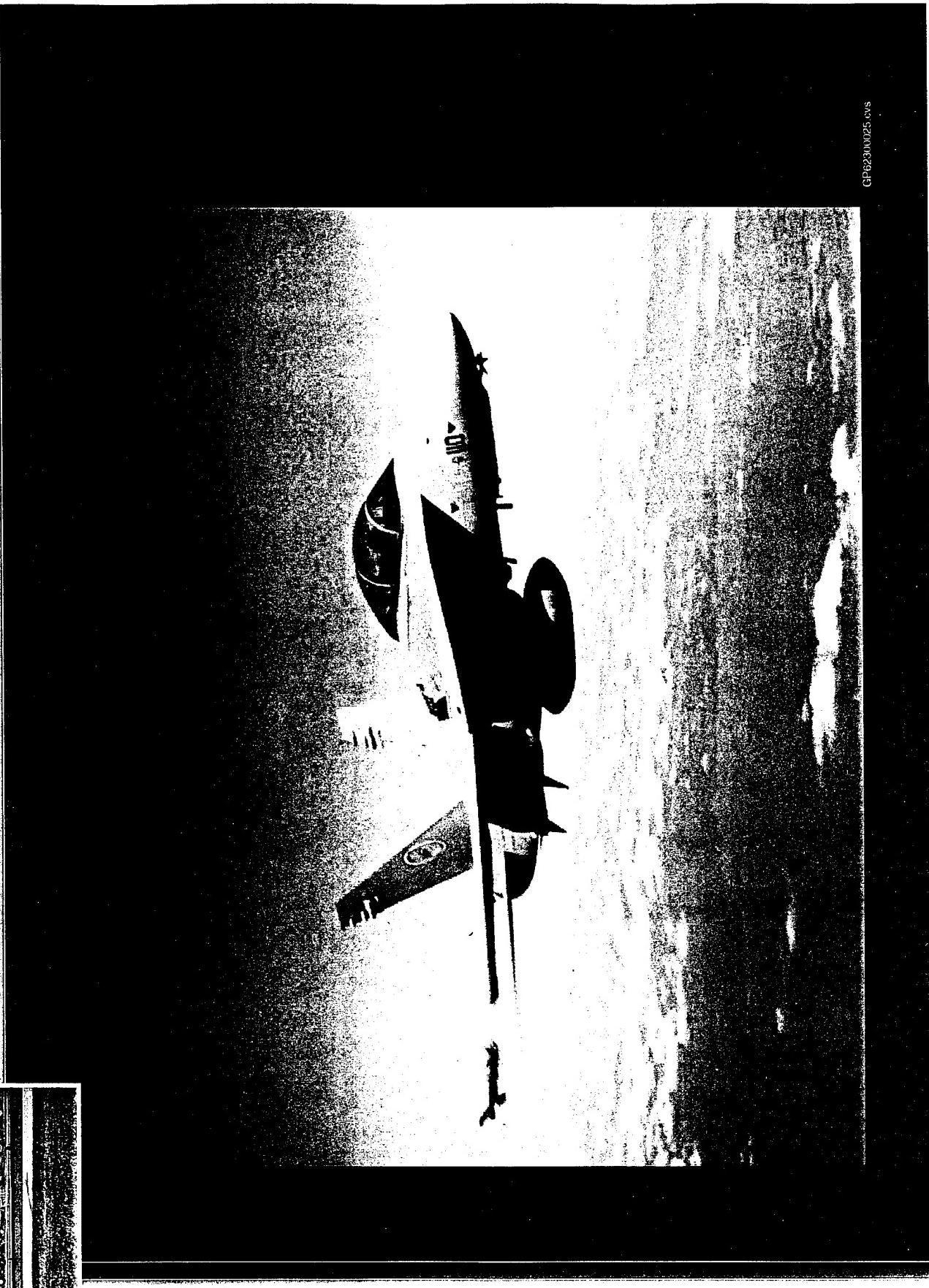
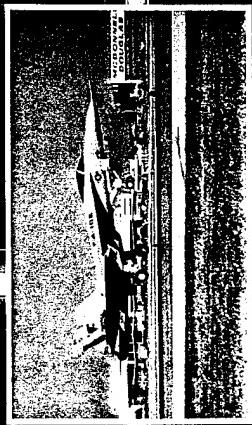
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Continues Hornet Evolution

Additional Improvements

- APG-73 Radar Upgrade
- Engine Upgrade
- Reconnaissance

F/A-18C/D Night Strike

- Night/Adverse Weather Capability
- Deliveries Began October 1989

F/A-18C/D

- Advanced Weapons
- Improved Systems
- Fleet Deliveries September 1987

F/A-18A/B

- Replaced A-7 and F-4
- First Flight November 1978

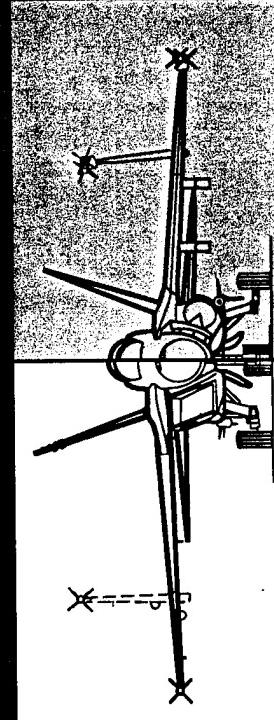
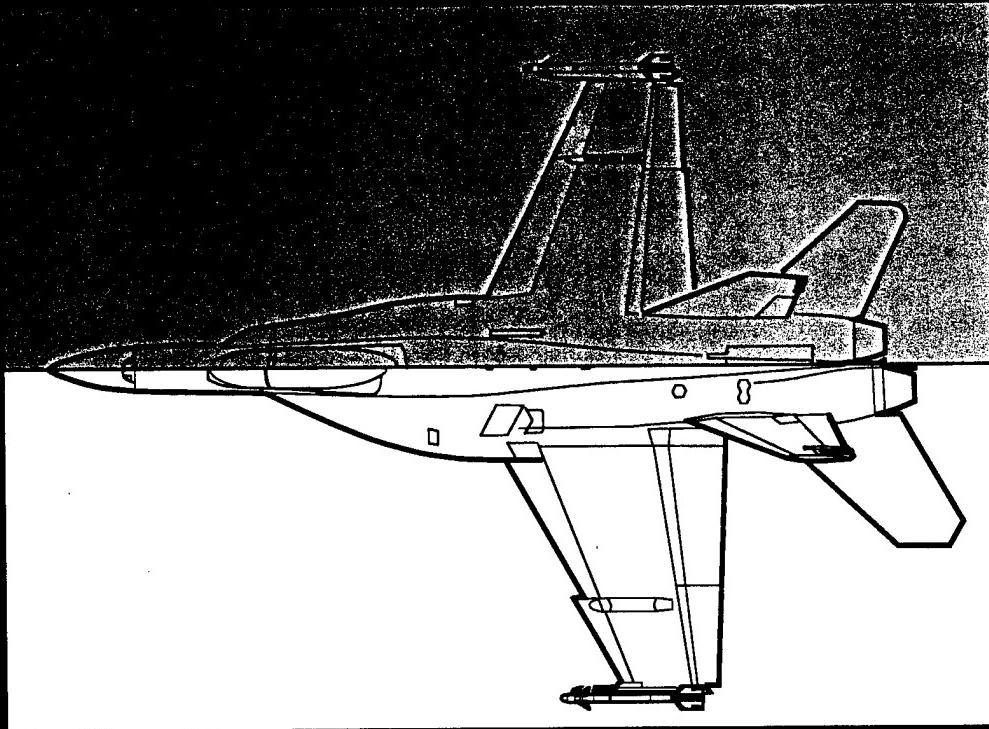
F/A-18E/F

- Longer Range
- Payload Flexibility
- Increased Payload Recovery
- Improved Survivability
- Growth Margin

Maintaining Outstanding Carrier Suitability and Growth Potential

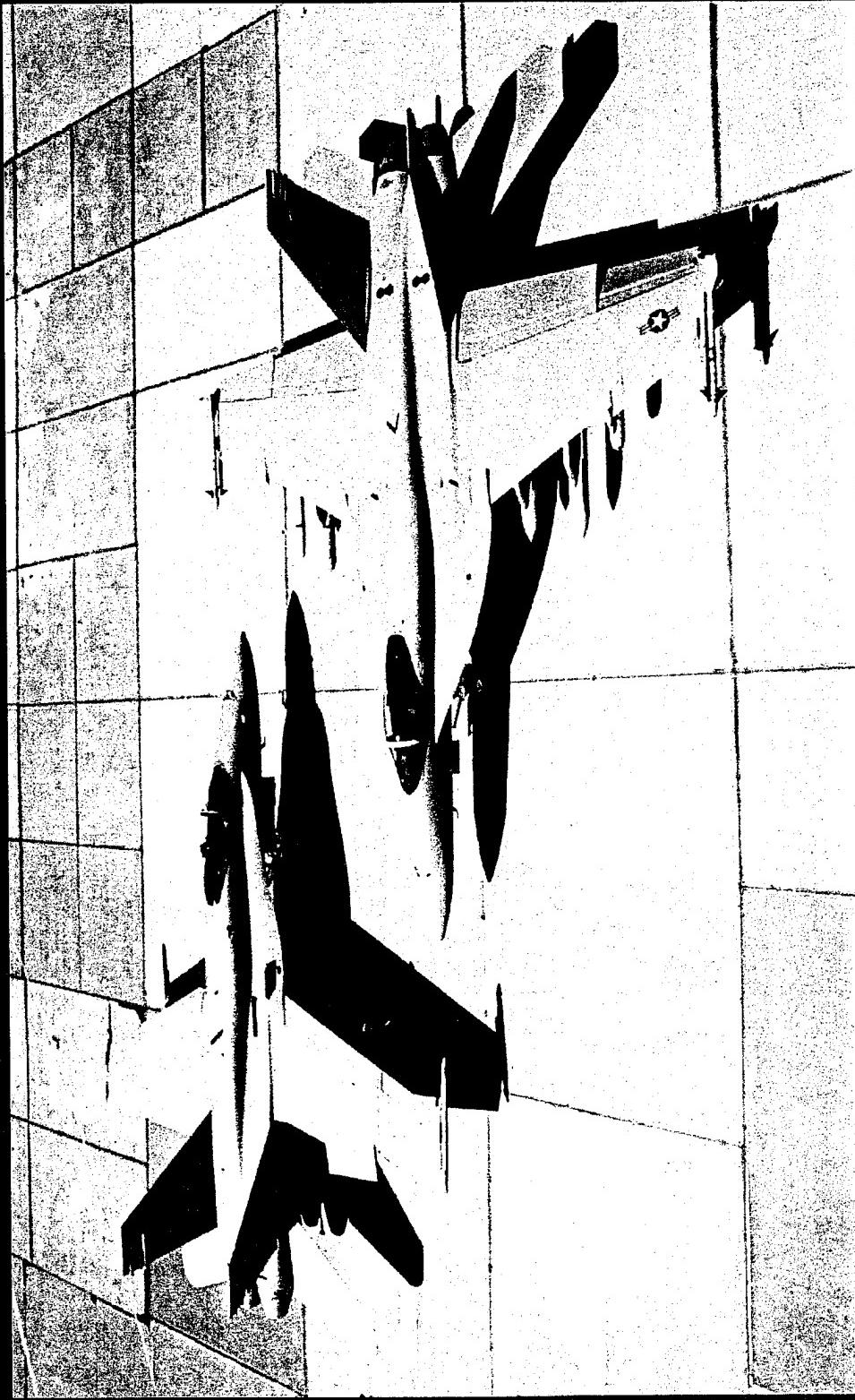
F/A-18E Characteristics

F/A-18E	500 sq ft	30,564 lb	66,000 lb	47,874 lb	42,900 lb	F414 44,000 lb	14,460 lb	6,730 lb 9,790 lb	7.5 g
Wing Area									
Weight									
Empty		30,564 lb	51,506 lb	37,976 lb	43,700 lb				
Max TOGW		66,000 lb	75,506 lb	57,976 lb	63,700 lb				
Takeoff (Fighter Escort)									
Carrier Landing									
Propulsion									
(2) F404 Derivative Turbos									
Engine									
Total Thrust Class (SLSU)									
Fuel (JP-5)									
Internal									
External									
330 gal. Tanks									
480 gal. Tanks									
Design Load Factor (USN)									

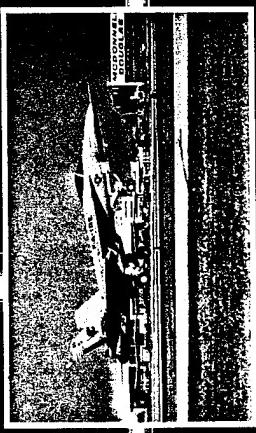
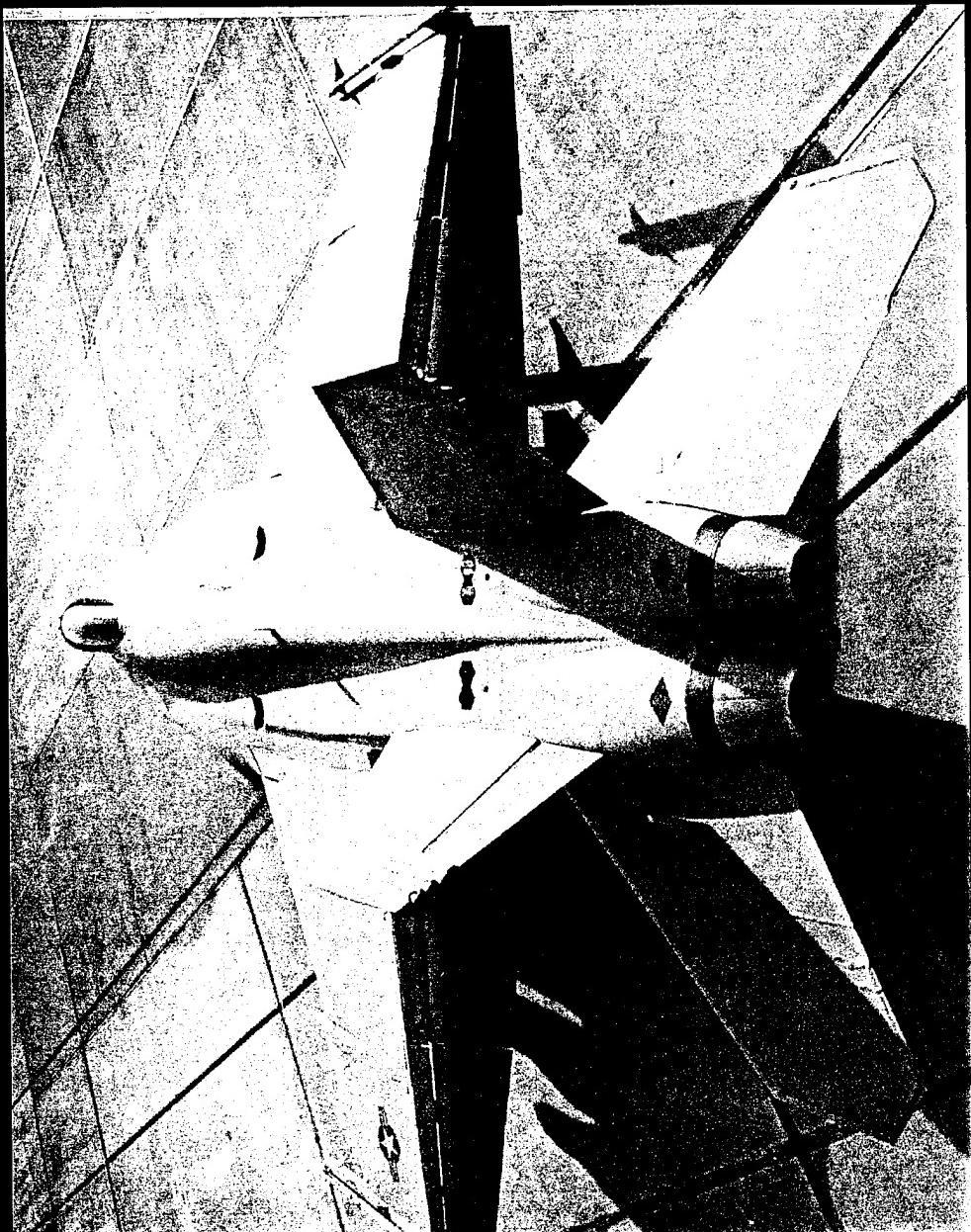


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C-E Comparison



GPG2300010.GVS

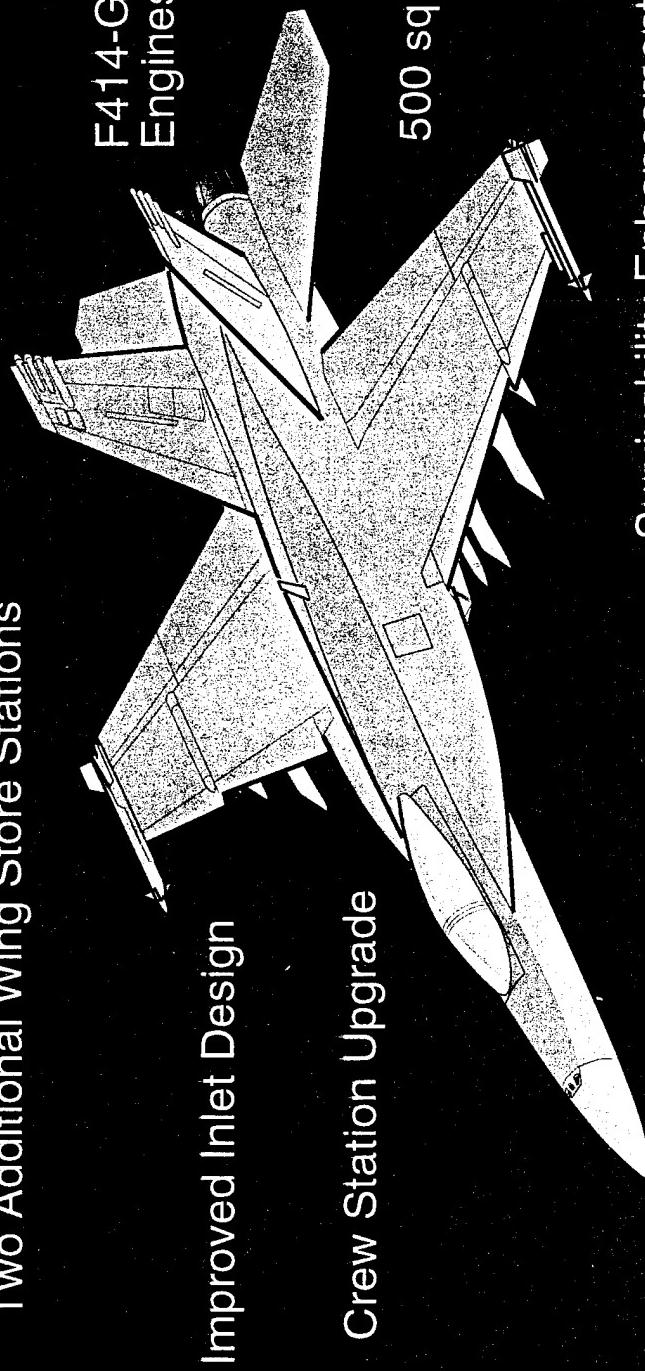


F/A-18E/F Features

Additional 3,600(E)/3,385(F) lb Internal Fuel

Two Additional Wing Store Stations
Improved Inlet Design

Dual Pressure Hydraulics



Aerial Refueling Store Compatibility

Increased Composite Usage for Fuselage Skins

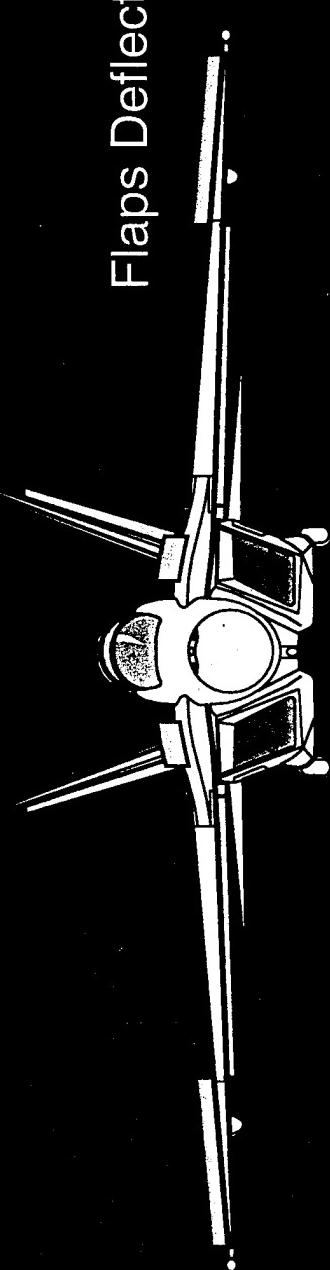
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Alternate Speedbrake Mechanization

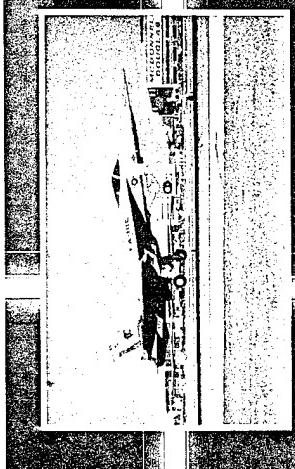
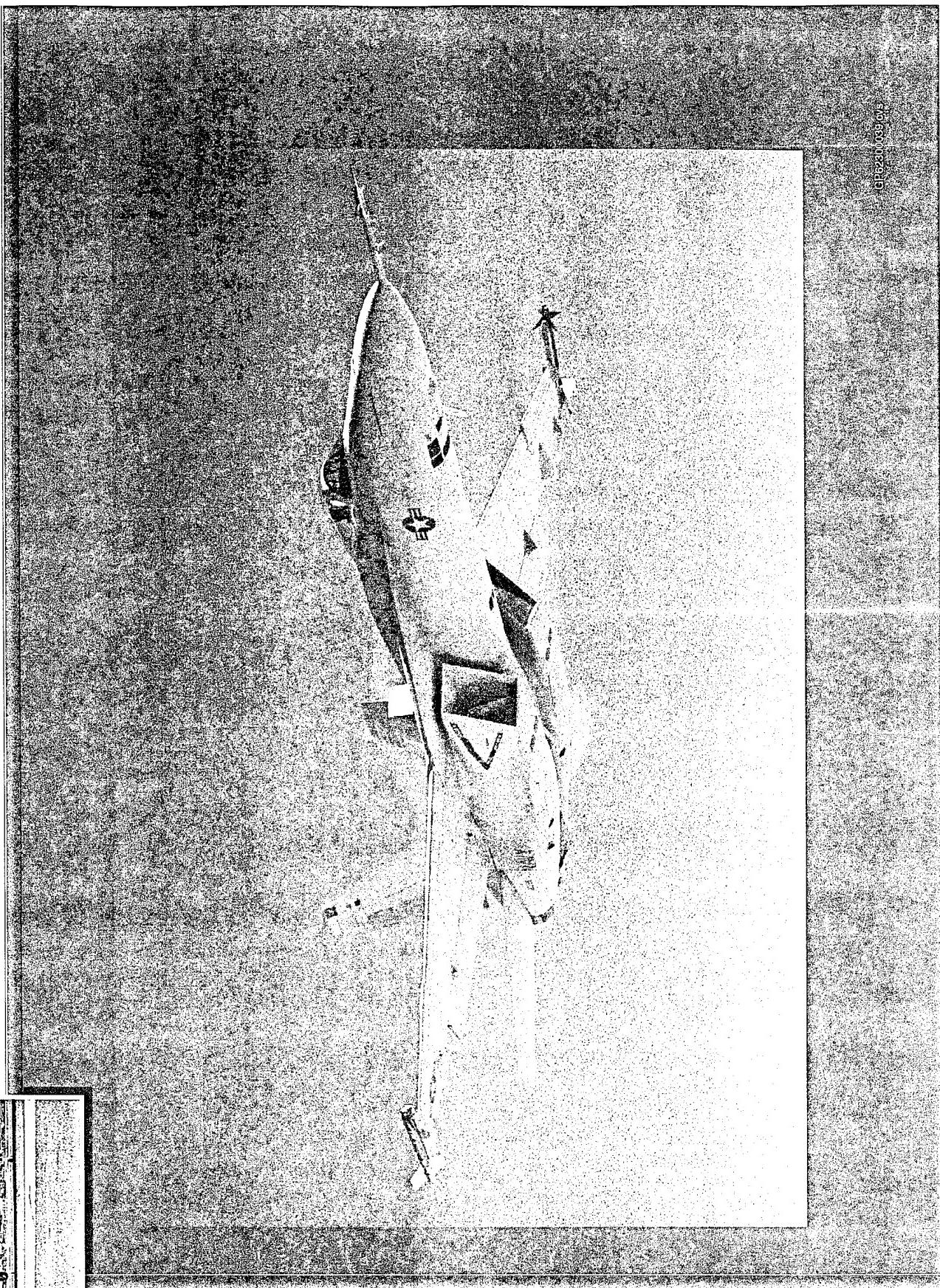
Primary Flight Controls Deflect

LEX Spoilers Deflect

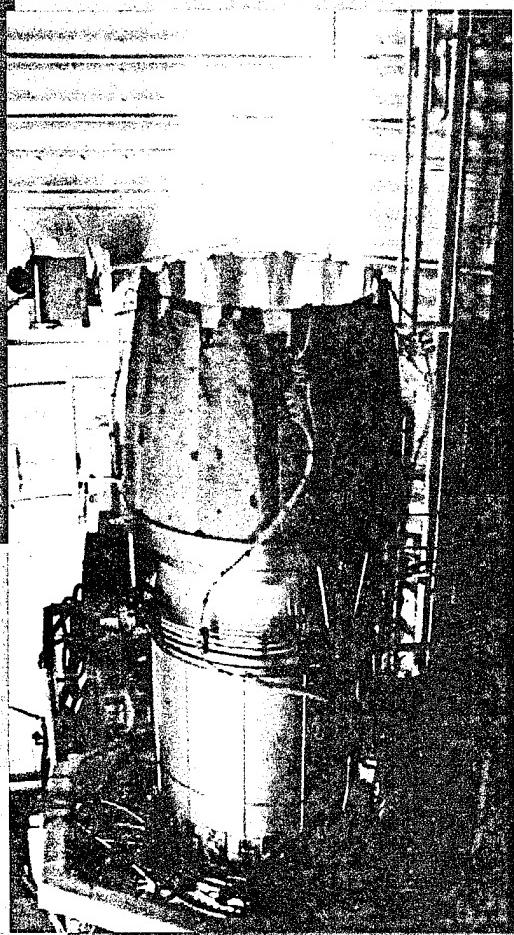
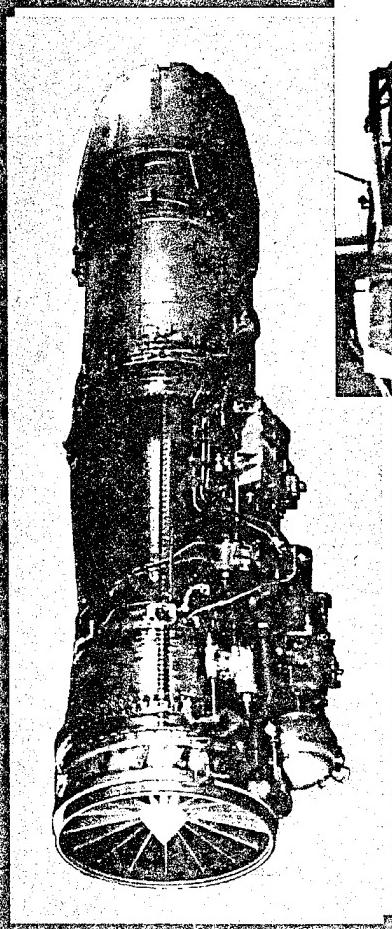


Mechanization Provides Roll and Yaw Command Priority Logic

PPG3009.GIF

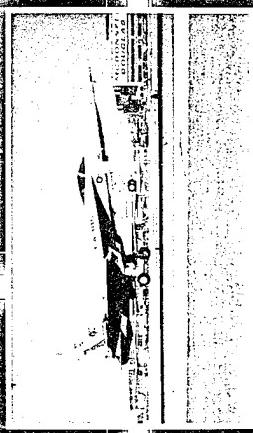


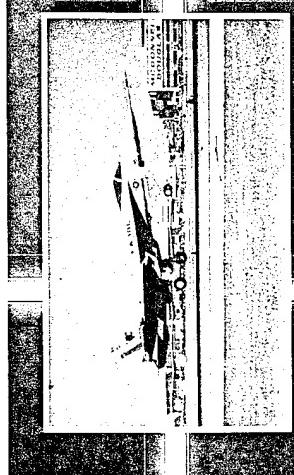
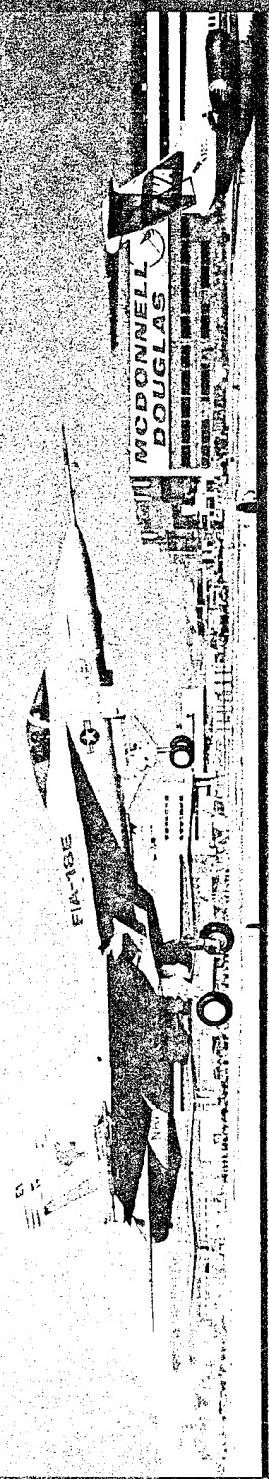
F414-GE-400 Turbofan Engine



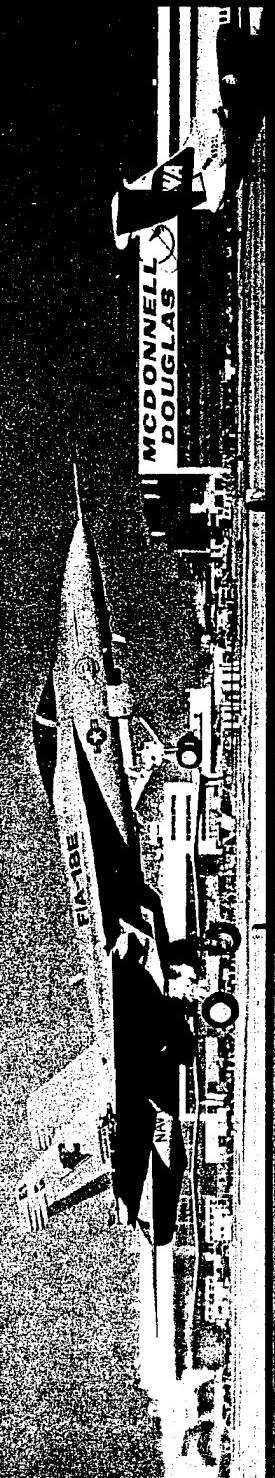
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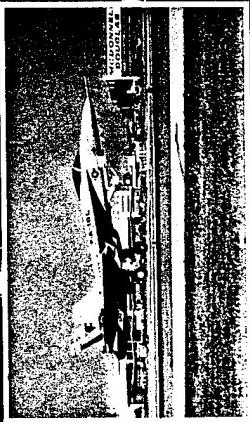
Let's Go Fly





GP62300040 cv5

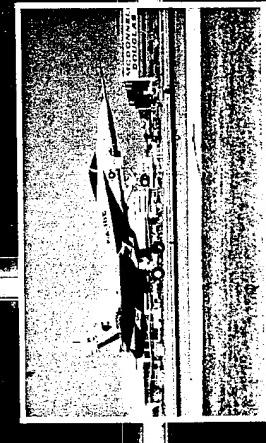
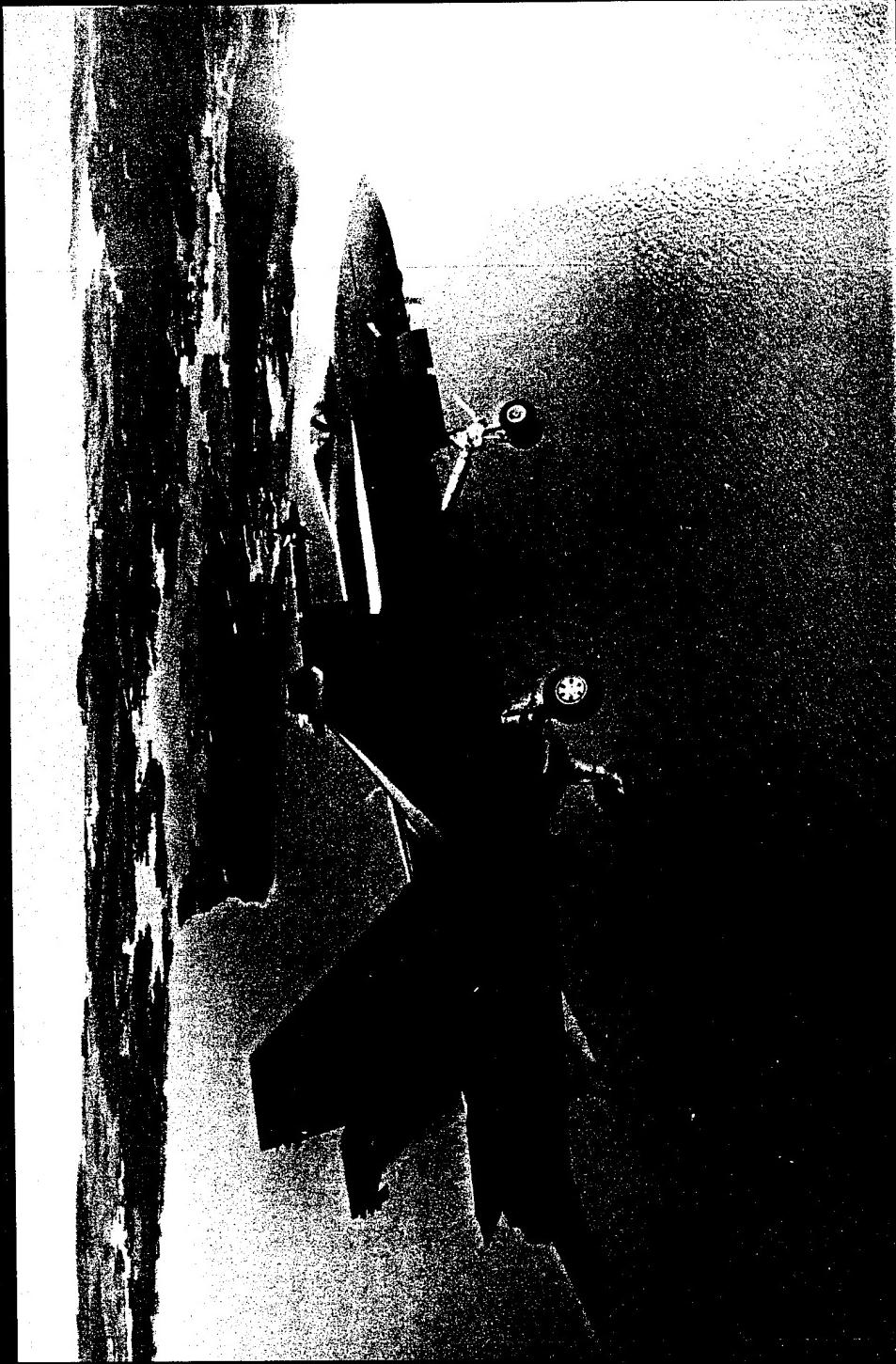




E/F Flight Test Status (3/1/96)

- **E-1** 6 Flights 8.8 hr
- **E-2** 6 Flights 9.0 hr
- Both Aircraft @ Pax - Ready to Test
 - E-1 Air Data/Envelope Expansion
 - E-2 FQ/Propulsion/IFR

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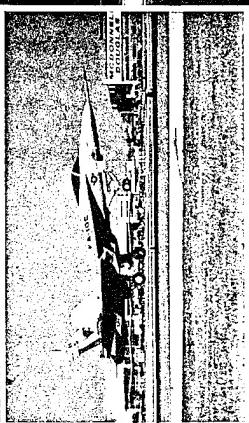


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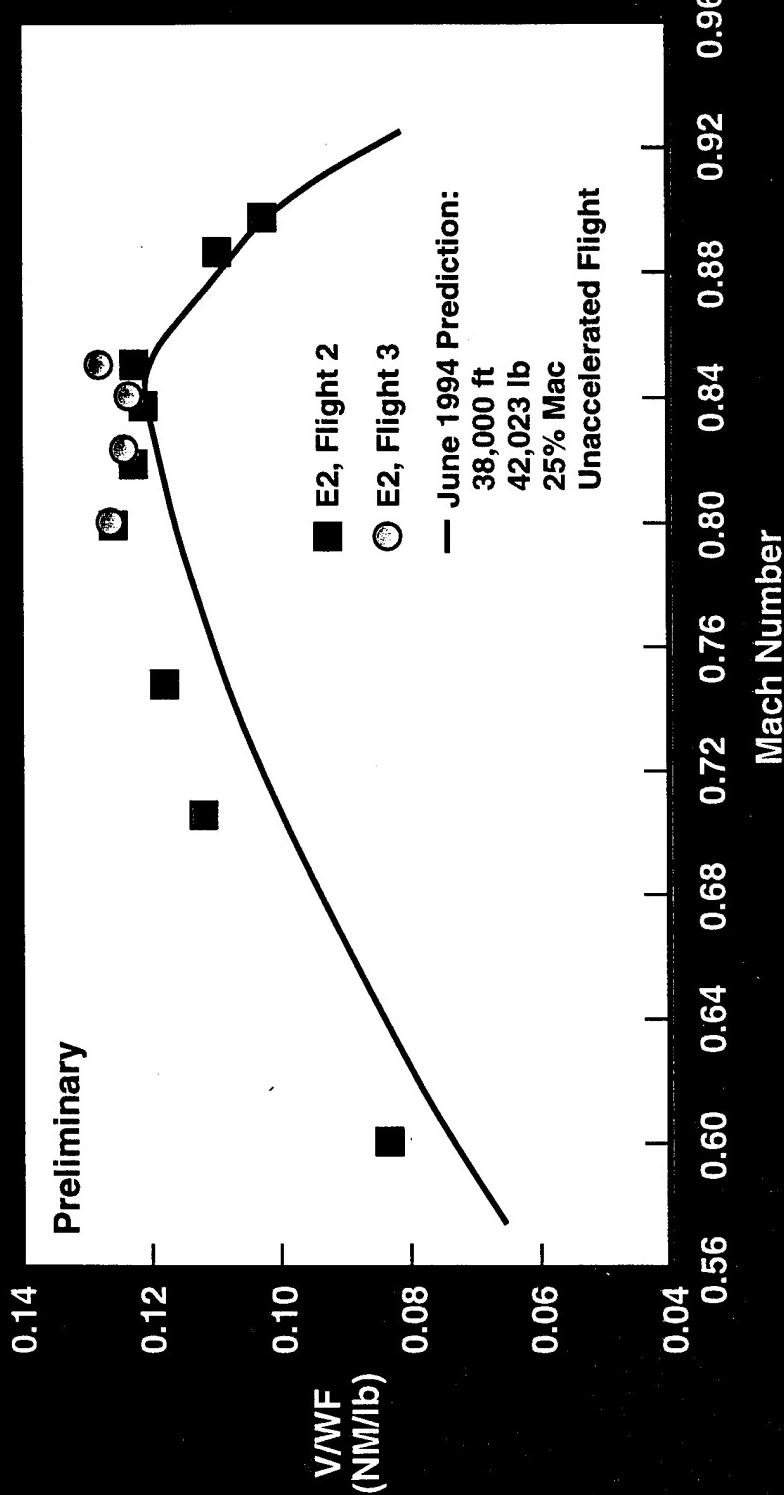


So, How Does It Fly?

- Handling Qualities
 - Up and Away
 - Landing
 - No Major FCS Design Issues
- Engine
 - Precise Control
- Performance
 - "Data On the Line or Above"
Longer Test Missions

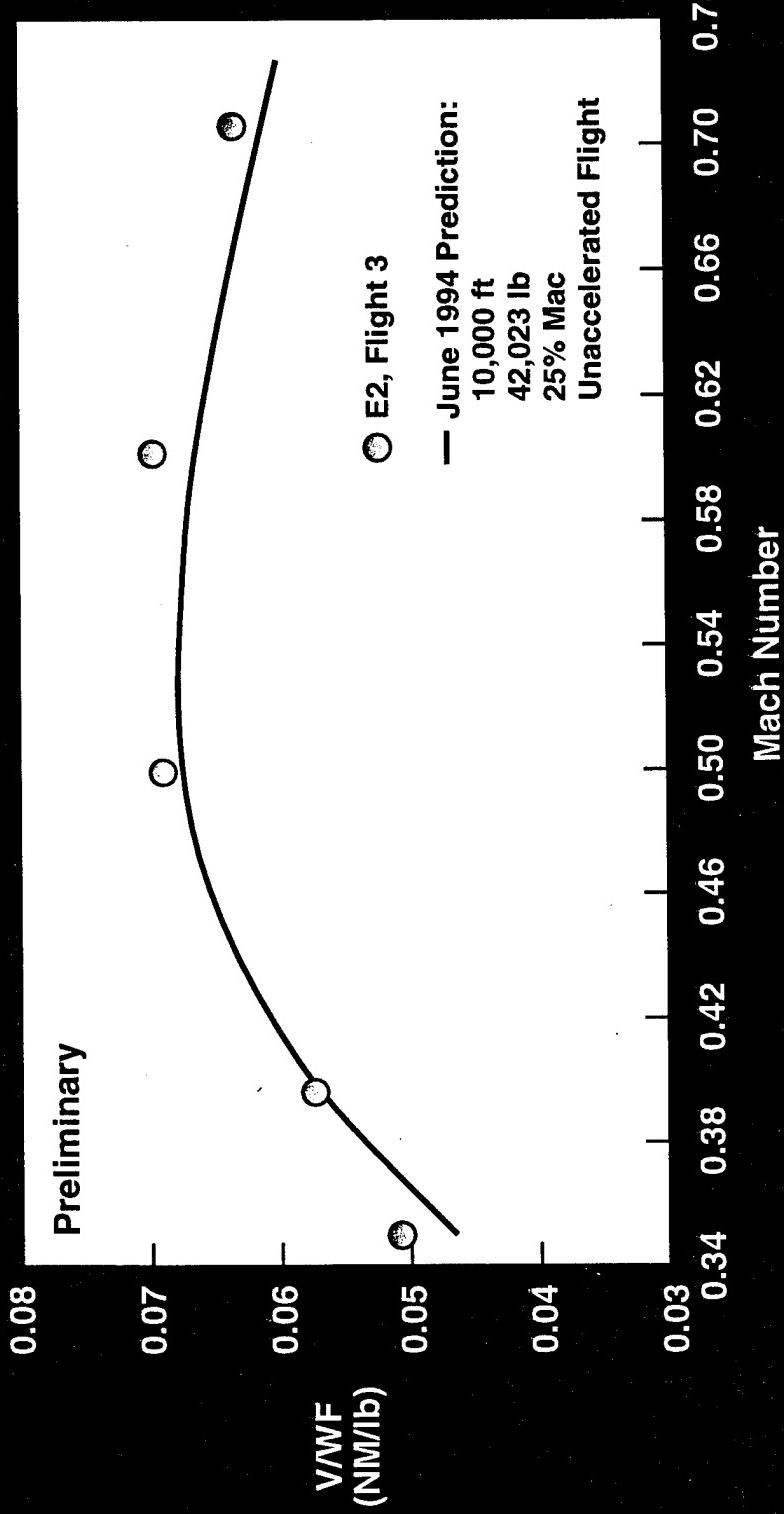


Raw Uncorrected EOA Cruise Specific Range @ W/Delta = 206,238 (2) AIM-9 Configuration

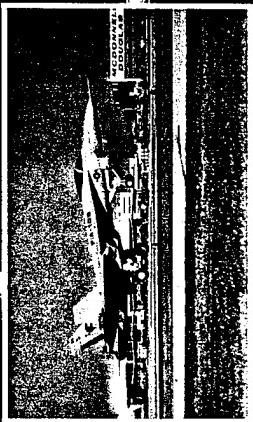


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**Raw Uncorrected EOA
Cruise Specific Range @
W/Delta = 61,107
(2) AIM-9 Configuration**



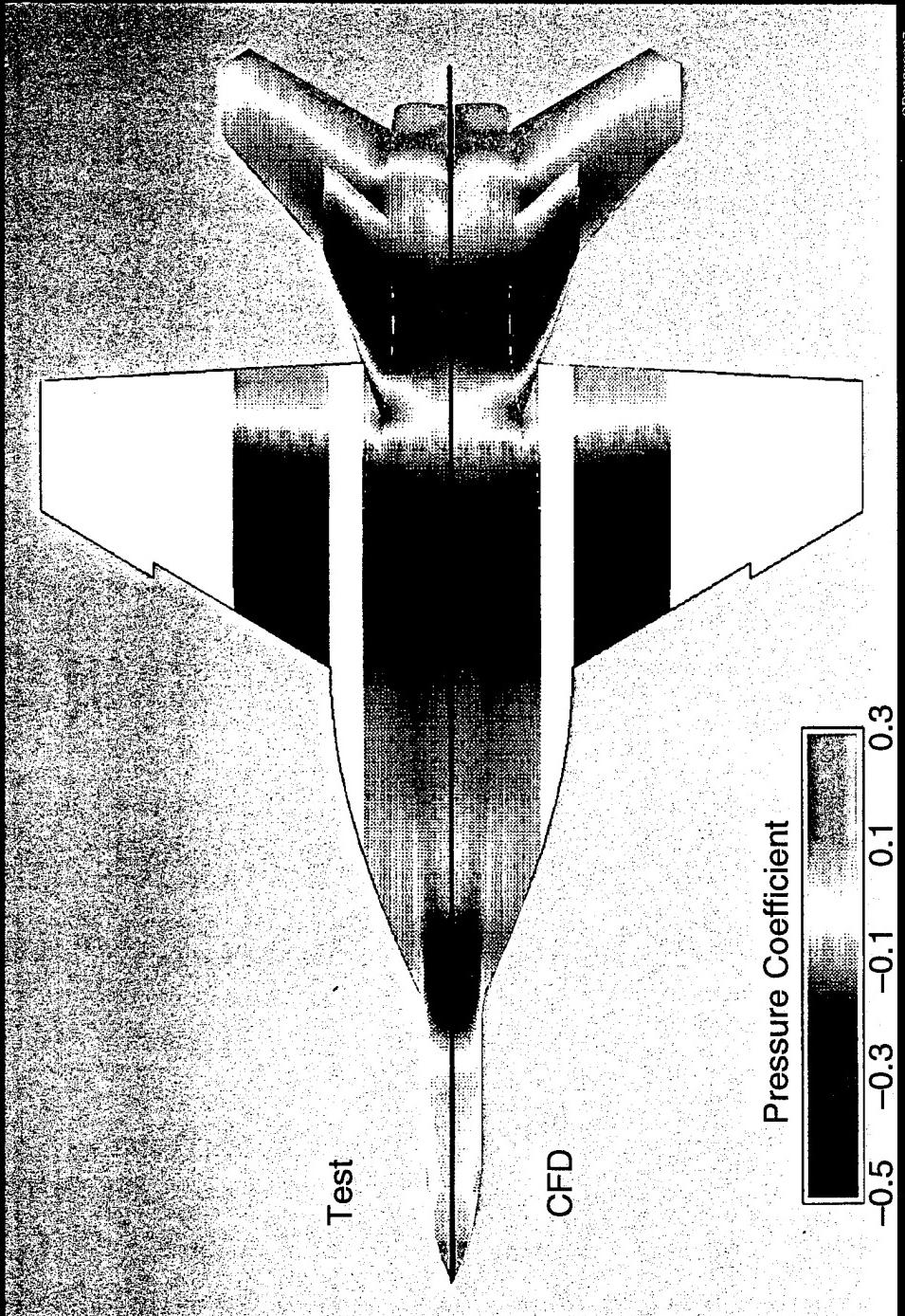
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Test Data Validates CFD

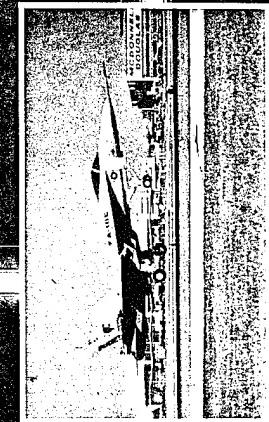
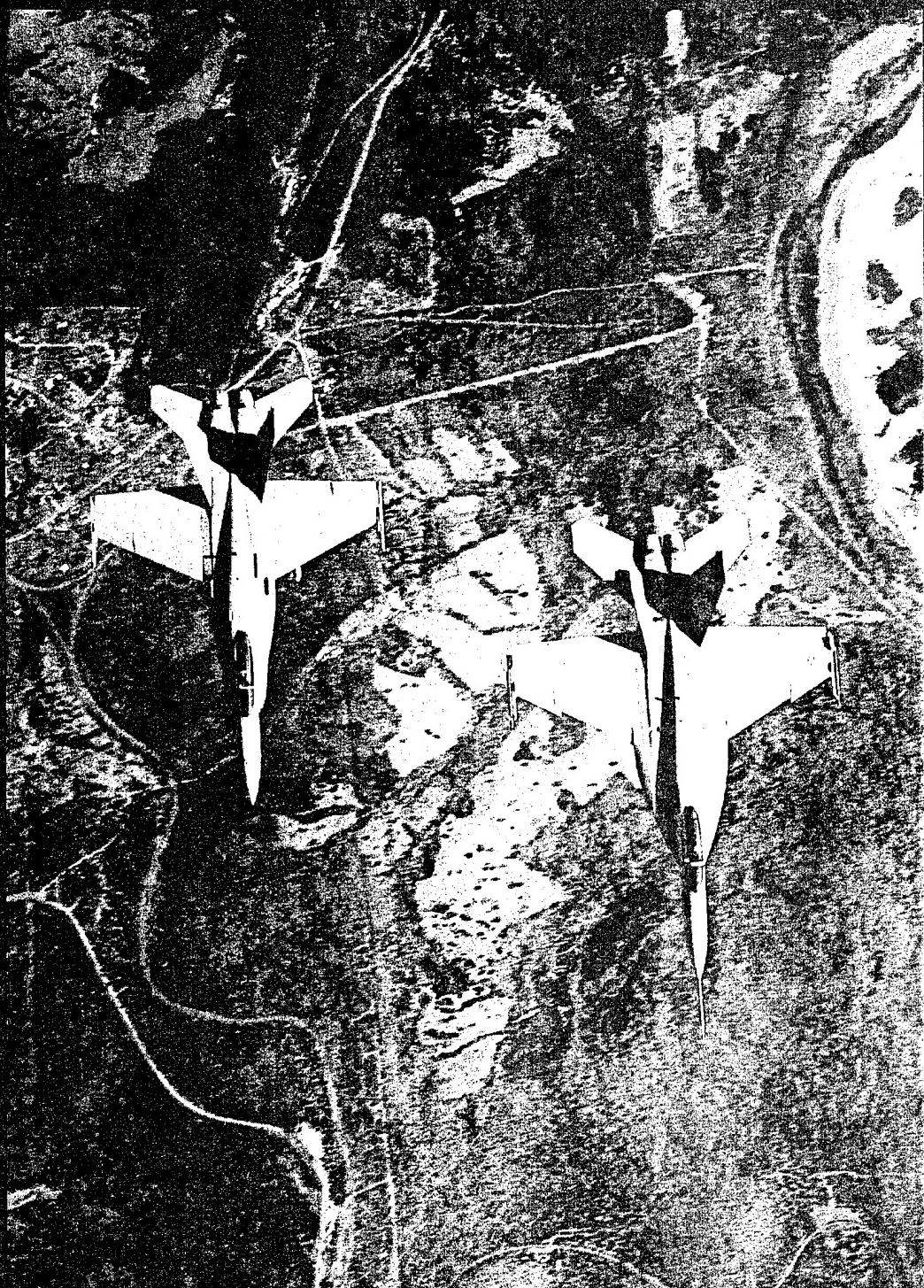
F/A-18E Sting and Distortion/Jet Effects Model

Mach 0.85, $\alpha = 3.5^\circ$



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Comparisons

Landing

42,000 lb CW
133 KIAS App SPD

Climb

35,000 lb CW
146 KIAS App SPD

Min Power Climb

High Altitude
Maneuvering

Buffet Free

In Buffet

Afterburner
Required



GR62300034 CVS

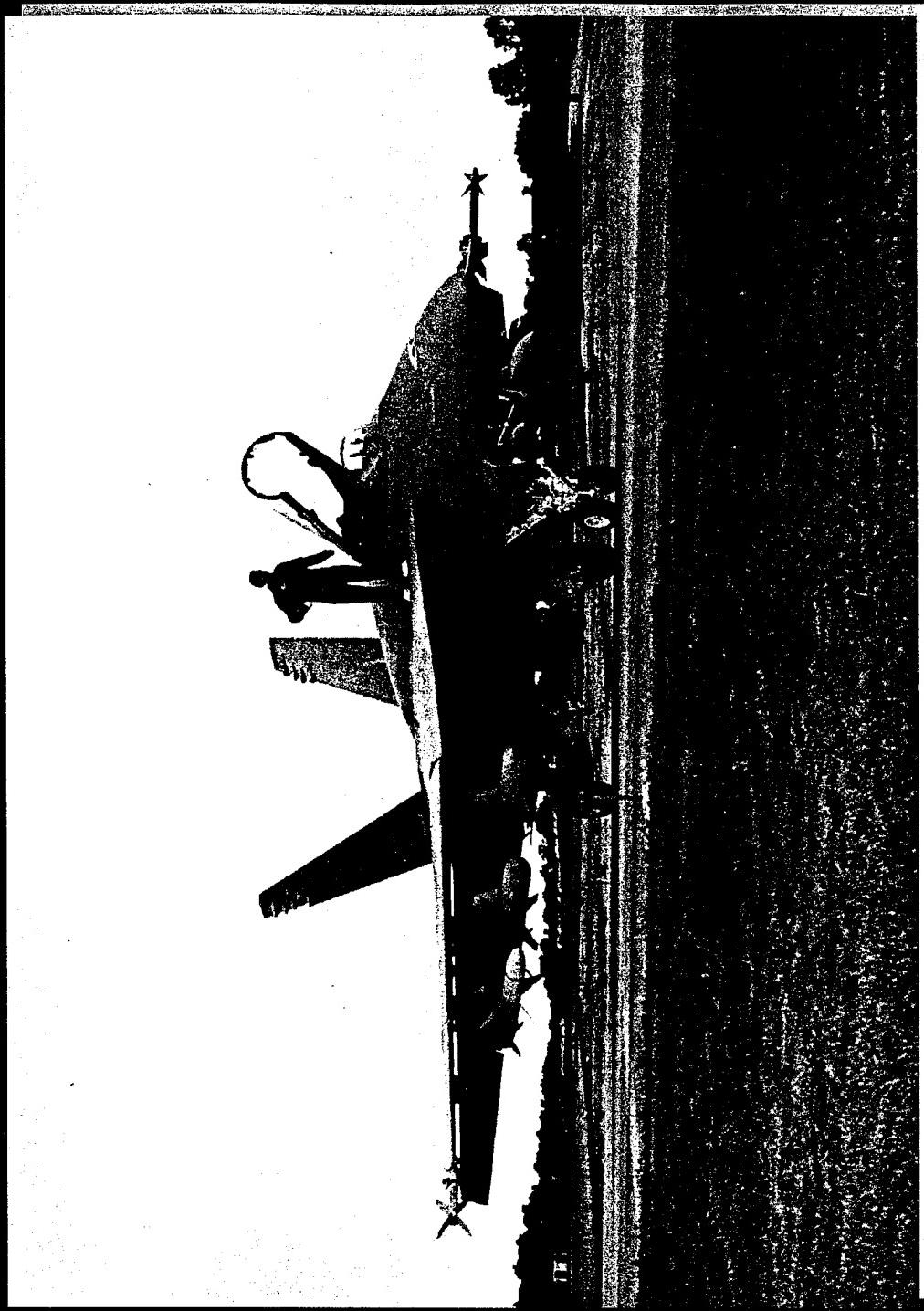
F/A-18E/F

Aircraft Test Program Summary

Aircraft	1995			1996			1997			1998		
	O	N	D	J	F	M	A	M	J	A	S	O
E1 (350)												
E2 (345)												
F1 (300)												
E3 (265)												
E4 (285)												
E5 (258)												
F2 (162)												

GP62300020 crs

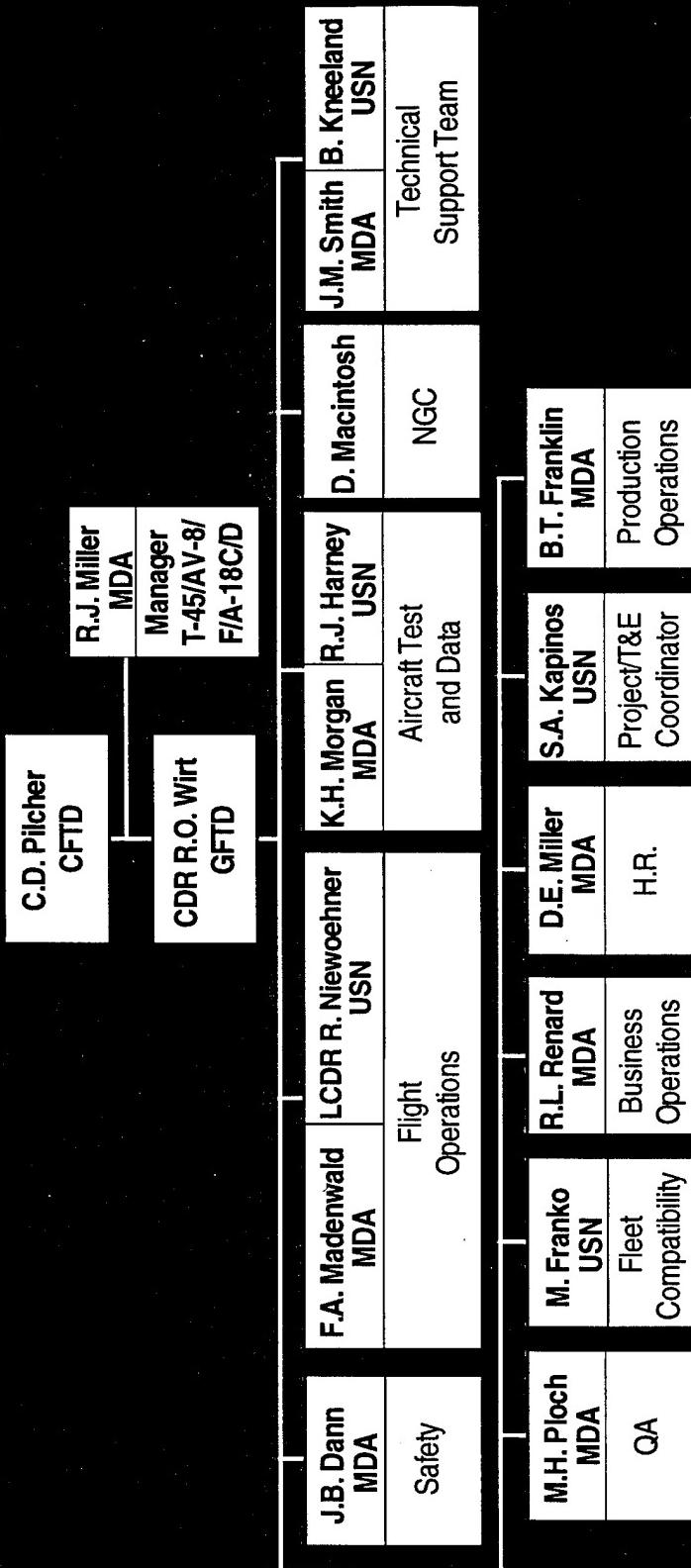
Integrated Test Team



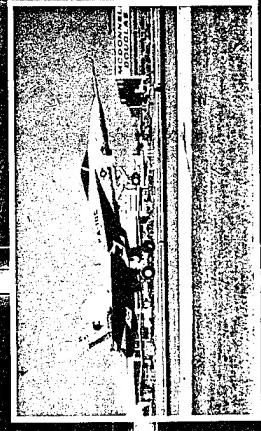
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F/A-18E/F Flight Test

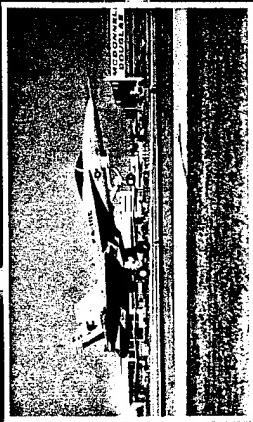
Integrated Test Team Organization

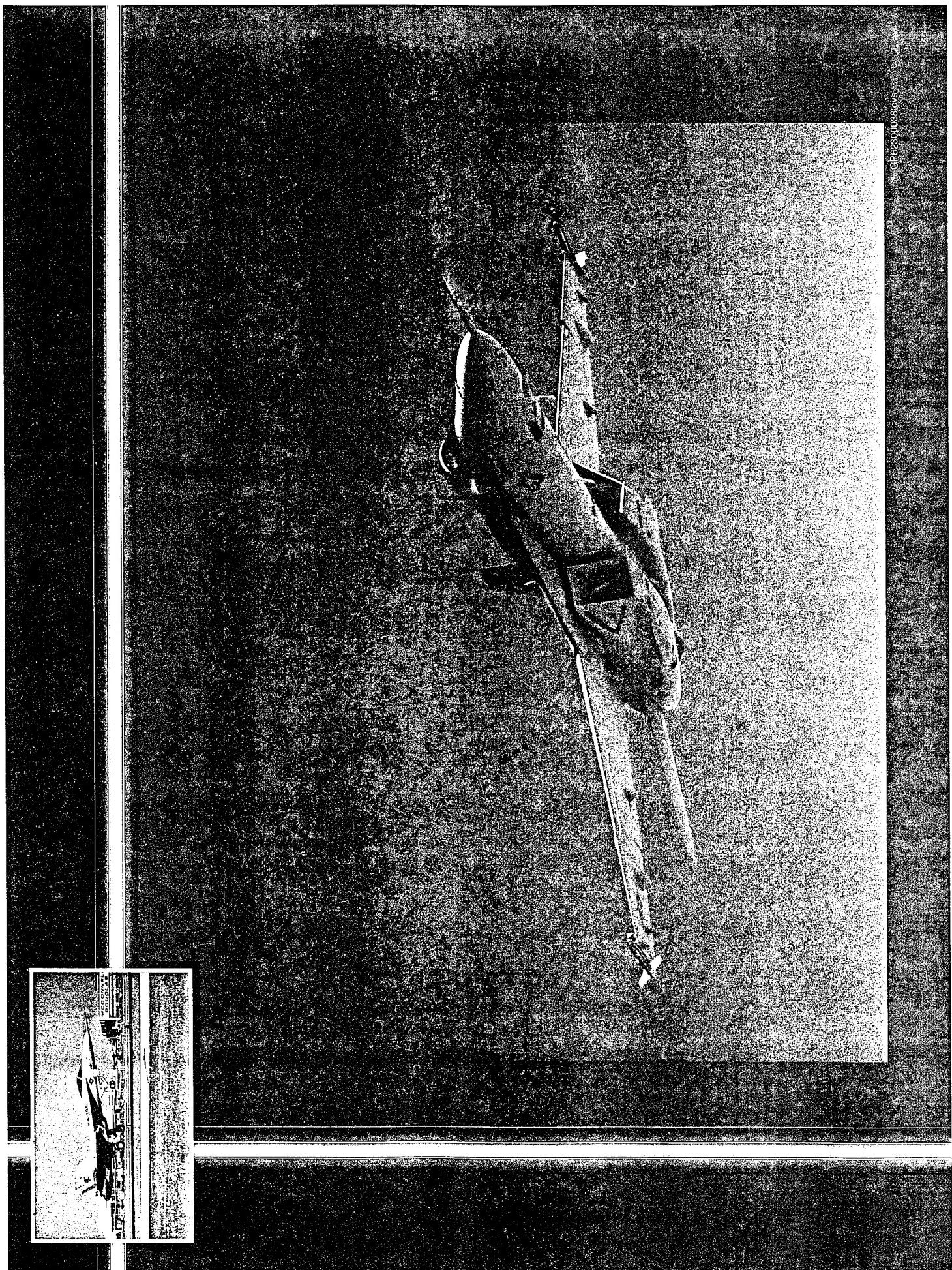


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